



# ARMY CREEK LANDFILL SUPERFUND SITE MARCH 2010 COMMUNITY UPDATE

NEW CASTLE, DELAWARE

## RESULTS OF EPA'S 5-YEAR REVIEW

The U.S. Environmental Protection Agency (EPA) is issuing this fact sheet to provide you with an update on the Army Creek Landfill Superfund Site (Site) located in New Castle, Delaware, and the Five-Year Review recently completed at the Site by EPA.

EPA examines sites every five years to ensure cleanups remain protective of human health and the environment.

**Five-Year Reviews, which are required by law, include:**

- Site inspections;
- Review of operating and maintenance records;
- Review of environmental monitoring data;
- Examination of potential exposure pathways; and
- Identification of any new health standards or regulatory requirements established since EPA's original cleanup decision was made.

EPA completed its third Five-Year Review of the cleanup at the Army Creek Landfill Site in September 2009. Prior Five-Year Reviews were conducted at the Site in 1998 and 2004. **EPA's latest Five-Year Review confirms that:**

- The landfill cap, perimeter fence, and restrictions on the use of the landfill property are all working as designed to prevent direct contact with waste and contaminated soil.
- All of the groundwater cleanup standards are being met at the property boundary, with the exception of the standard for lead. Lead has been detected in one monitoring well, but has not been detected at levels of concern beyond the property boundary.
- The State's Groundwater Management Zone is preventing exposure to lead in groundwater at the property boundary by prohibiting the installation of water supply wells in this area.

## SITE BACKGROUND

The Site is an abandoned sand and gravel quarry that was operated by New Castle County from 1960 to 1968 for the disposal of municipal and industrial waste. In 1971, groundwater contamination was found in a residential well located adjacent to the Llangollen Estates housing development. In 1973, New Castle County began operating groundwater recovery wells to prevent contaminated groundwater beneath the landfill from reaching the Artesian Water Company's public water supply wells.

From 1992 to 1993, a multi-layer cap was constructed over the landfill to prevent rain and snow from seeping into the waste and leaching more contaminants into the groundwater. An on-site groundwater treatment plant was also built. Groundwater from the recovery wells was treated in the plant to remove iron, and then discharged into Army Creek.

## SNAPSHOT OF SITE CLEANUP

EPA has overseen all cleanup activities for the site, including:

- Installation of a multi-layer cap over the 50-acre landfill;
- Operation of the groundwater recovery and treatment system from 1993 to 2004;
- Groundwater, stream, and air monitoring.

In 2004, groundwater recovery efforts were shifted to the adjacent Delaware Sand & Gravel Landfill Superfund Site and the operation of the Army Creek Landfill groundwater recovery and treatment system was then suspended.

Site monitoring has shown that the Army Creek Landfill remedy is performing as designed, and the waste material managed on-site is not impacting drinking water supplies.

## COMMUNITY QUESTIONS & ANSWERS

### **Has sampling been done specifically for this review?**

Routine sampling programs for groundwater and the on-site stream have been in place for years. However, EPA's third Five-Year Review included additional testing of shallow groundwater in order to evaluate the potential for any contaminants in the shallow groundwater to vaporize and enter buildings near the landfill. The sample results indicate that shallow groundwater is not a potential source of indoor air pollution in nearby buildings.

### **How often has groundwater testing been done?**

Groundwater, surface water and stream sediments have been tested on a quarterly (four times a year), semi-annual (twice a year) or annual (once a year) basis.

### **Can I get copies of sampling results?**

Yes. Five-Year Reviews can be accessed by following the website access steps on page 2. Sampling results are provided online within the Five-Year Review reports.

### **How can I get sampling results for my drinking water from the public water utility?**

The Artesian Water Company's annual Water Quality Reports are available at <http://www.artesianwater.com/customer-service-center/artesian-pipeline-newsletter>. Click on Artesian Water Company under Spring 2009 Issues for the report for northern New Castle County.

### **Is EPA reviewing the public water utility's drinking water sampling data?**

No. Artesian reports to the Office of Drinking Water in Delaware's Division of Public Health on a quarterly basis, and the water must meet Federal and State drinking water standards and advisory levels.

## COMMUNITY QUESTIONS & ANSWERS, CONTINUED...

### What will EPA do if site-related contaminants exceed EPA's acceptable drinking water limits?

Water quality for the public drinking water supply is regulated under the Safe Drinking Water Act and compliance is monitored by the State. EPA oversees cleanup measures at the two Superfund Sites (Army Creek Landfill and Delaware Sand & Gravel Landfill).

### How often is sampling done by the water utility?

Water quality at Artesian Water Company's Llangollen pump station is tested quarterly. Test results are reported to the Delaware Office of Drinking Water. Artesian's customers receive an annual Water Quality Report, which is also available online. Granular activated carbon is used at Artesian's Llangollen well field to treat groundwater before it enters the pump station and distribution system. The performance of the carbon filters is monitored on a monthly basis.

### How often is sampling done by EPA?

New Castle County monitors groundwater quality at the Army Creek Landfill Site regularly and reports to EPA. EPA's Remedial Project Manager reviews the results. Sampling frequency at the various monitoring locations has varied from quarterly to annually, as approved by EPA.

### What are the health effects from exposure to the chemicals that have been released from the two Superfund sites into groundwater?

The main contaminants of concern in the groundwater near the Superfund sites are benzene and bis(2-chloroethyl)ether (BCEE). Benzene is a known human carcinogen. BCEE can cause cancer in laboratory animals and is a probable human carcinogen. However, the local community is not being exposed to these contaminants because the groundwater pumped from Artesian Water Company's Llangollen well field is filtered through carbon in order to remove these contaminants. The treated water from Artesian's Llangollen pump station meets Federal and State standards for public drinking water supplies.

## Site Contacts

For additional information about the Army Creek Landfill Superfund Site located in New Castle, Delaware, please contact a representative listed below:

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Additional information about the Army Creek Landfill Superfund Site is available on EPA's website at:  
[www.epa.gov/reg3hwmd/super/sites/DED980494496](http://www.epa.gov/reg3hwmd/super/sites/DED980494496)

EPA's Five-Year Review Reports for the Site may be viewed at:

<http://www.epa.gov/superfund/sites/fiveyear>

Click on "Search Five-Year Reviews." Select "Delaware" and click the Search button at the bottom of the page. On the next page, click on the "Army Creek Landfill" link.



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